

# SAFETY DATA SHEET

## TRIGONOX C

Version 1

Revision Date 06/10/2015

Print Date 10/29/2015

US / Z8

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TRIGONOX C

Product Use Description : Polymerization initiator

Company : Akzo Nobel Functional Chemicals LLC  
525 West Van Buren  
Chicago IL 60607-3823  
USA

Telephone : +18008287929

Fax : +13125447188

E-mail address : RegulatoryAffairs@akzonobel.com

Emergency telephone : AkzoNobel: +31 57 06 79211 CHEMTREC - USA: 1-800-424-9300  
CANUTEC - CANADA: 1-613-996-6666

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

Appearance	liquid
Color	colorless
Odor	Faint.

#### GHS Classification

Organic peroxides, Type C  
Acute toxicity, Category 4, Inhalation  
Skin irritation, Category 2  
Skin sensitization, Category 1  
Acute aquatic toxicity, Category 1  
Chronic aquatic toxicity, Category 3

#### GHS Label element

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H242 Heating may cause a fire.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H332 Harmful if inhaled.  
H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

## Precautionary Statements

### : **Prevention:**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P220 Keep away from dirt, rust, chemicals in particular.

P234 Keep only in original container.

P261 Avoid breathing mist, vapours or spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ eye protection/ face protection.

### **Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

P391 Collect spillage.

### **Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.

P410 Protect from sunlight.

P420 Store away from other materials.

### **Disposal:**

P501 Dispose of contents/container in accordance with local regulation.

## Potential Health Effects

### Inhalation

: Inhalation of aerosols may cause irritation to mucous membranes.  
Thermal decomposition can lead to release of irritating gases and vapors.  
Harmful if inhaled.

### Skin

: Causes skin irritation.  
May cause an allergic skin reaction.

### Eyes

: May cause eye irritation.

### Ingestion

: May cause irritation of the mucous membranes.

### Aggravated Medical Condition

: None known.

### Symptoms of Overexposure

: The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

## Carcinogenicity:

### IARC

: No ingredient of this product present at levels greater than or

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## OSHA

equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

## NTP

: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

## ACGIH

: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Hazardous ingredients

Chemical Name	CAS-No.	Classification	Concentration [%]
tert-Butylperoxybenzoate	614-45-9	Org. Perox. C; H242 Acute Tox. 4; H332 Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 3; H412 M-Factor (Acute): 1	90 - 100

tert-Butyl peroxybenzoate, neat

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this material safety data sheet to the doctor in attendance.
- Inhalation : If breathed in, move person into fresh air.  
Consult a physician after significant exposure.
- Skin contact : Take off contaminated clothing and shoes immediately.  
Rinse immediately with plenty of water.  
If skin irritation persists, call a physician.
- Eye contact : Rinse with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- Ingestion : Clean mouth with water and drink afterwards plenty of water.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.

#### Notes to physician

- Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
- Treatment : Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing : High volume water jet

media

- Specific hazards during fire fighting / Specific hazards arising from the chemical : CAUTION: reignition may occur.  
Supports combustion.  
Do not use a solid water stream as it may scatter and spread fire.  
Water spray may be ineffective unless used by experienced firefighters.  
Heating may cause decomposition with release of toxic fumes.  
Do not allow run-off from fire fighting to enter drains or water courses.
- Combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Use water spray to cool unopened containers.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

See also Section 9. Physical and chemical properties: Safety data

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## 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up /  
Methods for containment : Keep wetted with water.  
Soak up with inert absorbent material and dispose of as hazardous waste.  
Confinement must be avoided.  
Never return spills in original containers for re-use.
- Additional advice : For personal protection see section 8.

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## 7. HANDLING AND STORAGE

### Handling

- Advice on safe handling : For personal protection see section 8.  
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Open drum carefully as content may be under pressure.

Dispose of rinse water in accordance with local and national regulations.  
Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Use explosion protected equipment.  
Keep away from sources of ignition - No smoking.  
No sparking tools should be used.  
Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).  
Do not cut or weld on or near this container even when empty.  
Keep away from combustible material.

Temperature class : It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

## Storage

Requirements for storage areas and containers : No smoking.  
Electrical installations / working materials must comply with the technological safety standards.  
Keep only in original container.  
Store away from other materials.

Minimum storage temperature: : Avoid temperatures below:  
10 °C (50 °F)

Maximum storage temperature: : 25 °C (77 °F)

Other data : No decomposition if stored and applied as directed.  
: If product freezes or separates, contact Akzo Nobel

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Contains no substances with occupational exposure limit values.

### Occupational exposure limits of decomposition products

Decomposition products	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Benzene	71-43-2	TWA	0.5 ppm	2007-01-01	ACGIH	
	Further information	:	Leukemia BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section) A1: Confirmed human carcinogen Skin: Danger of cutaneous absorption			
		STEL	2.5 ppm	2007-01-01	ACGIH	
	Further information	:	Leukemia BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section) A1: Confirmed human carcinogen Skin: Danger of cutaneous absorption			
		TWA	0.1 ppm	2013-10-08	NIOSH REL	

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	Further information	:	Ca: Potential Occupational Carcinogen See Appendix A			
		ST	1 ppm	2013-10-08	NIOSH REL	
	Further information	:	Ca: Potential Occupational Carcinogen See Appendix A			
		TWA	10 ppm	2007-01-01	OSHA Z-2	
	Further information	:	Z37.40-1969 (a): This standard applies to the industry segments exempt from the 1 ppm 8-hour TWA and 5 ppm STEL of the benzene standard at 1910.1028.			
		CEIL	25 ppm	2007-01-01	OSHA Z-2	
	Further information	:	Z37.40-1969 (a): This standard applies to the industry segments exempt from the 1 ppm 8-hour TWA and 5 ppm STEL of the benzene standard at 1910.1028.			
		Peak	50 ppm	2007-01-01	OSHA Z-2	
	Further information	:	Z37.40-1969 (a): This standard applies to the industry segments exempt from the 1 ppm 8-hour TWA and 5 ppm STEL of the benzene standard at 1910.1028.			
	Further information	:	See 1910.1028. See Table Z-2 for the limits applicable in the operations or sectors excluded in 1910.1028 d: The final benzene standard in 1910.1028 applies to all occupational exposures to benzene except some subsegments of industry where exposures are consistently under the action level (i.e., distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures); for the excepted subsegments, the benzene limits in Table Z-2 apply.			
	Further information	:	Substance listed; for more information see OSHA document 1910.1028 See Table Z-2 for the limits applicable in the operations or sectors excluded in 1910.1028d. (d) The final benzene standard in 1910.1028 applies to all occupational exposures to benzene except in some circumstances the distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures; for the excepted subsegments, the benzene limits in Table Z-2 apply. See 1910.1028 for specific circumstances.			
		PEL	1 ppm	2012-04-03	OSHA CARC	
	Further information	:	1910.1028 This section applies to all occupational exposures to benzene. Chemical Abstracts Service Registry No. 71-43-2, except as provided in paragraphs (a)(2) and (a)(3) of this section. Paragraph (a)(2): This section does not apply to: (i) The storage, transportation, distribution, dispensing, sale or use of gasoline, motor fuels, or other fuels containing benzene subsequent to its final discharge from bulk wholesale storage facilities, except that operations where gasoline or motor fuels are dispensed for more than 4 hours per day in an indoor location are covered by this section. (ii) Loading and unloading operations at bulk wholesale storage facilities which use vapor control systems for all loading and unloading operations, except for the provisions of 29 CFR 1910.1200 as incorporated into this section and the emergency provisions of paragraphs (g) and (i)(4) of this section. (iii) The storage, transportation, distribution or sale of benzene or liquid mixtures containing more than 0.1 percent benzene in intact containers or in transportation pipelines while sealed in such a manner as to contain benzene vapors or liquid, except for the provisions of 29 CFR 1910.1200 as incorporated into this section and the emergency provisions of paragraphs (g) and (i)(4) of this section. (iv) Containers and pipelines carrying mixtures with less than 0.1 percent benzene and natural gas processing plants processing gas with less than 0.1 percent benzene. (v) Work operations where the only exposure to benzene is from liquid mixtures containing 0.5 percent or less of benzene by volume, or the vapors released from such liquids until September 12, 1988; work operations where the only exposure to benzene is from liquid mixtures containing 0.3 percent or less of benzene by volume or the vapors released from such liquids from September 12, 1988, to September 12, 1989; and work operations where the only exposure to benzene is from liquid mixtures containing 0.1 percent or less of benzene by volume or the vapors released from such liquids after September 12, 1989; except that tire building machine operators using solvents with more than 0.1 percent benzene are covered by paragraph (i) of this section. (vi) Oil and gas drilling, production and servicing operations. (vii) Coke oven batteries. Paragraph (a)(3): The			

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			<p>cleaning and repair of barges and tankers which have contained benzene are excluded from paragraph (f) methods of compliance, paragraph (e)(1) exposure monitoring-general, and paragraph (e)(6) accuracy of monitoring. Engineering and work practice controls shall be used to keep exposures below 10 ppm unless it is proven to be not feasible.</p> <p>Benzene (C<sub>6</sub>H<sub>6</sub>) (CAS Registry No. 71-43-2) means liquefied or gaseous benzene. It includes benzene contained in liquid mixtures and the benzene vapors released by these liquids. It does not include trace amounts of unreacted benzene contained in solid materials</p> <p>OSHA specifically regulated carcinogen</p>			
		STEL	5 ppm	2012-04-03	OSHA CARC	
	Further information	:	<p>1910.1028</p> <p>This section applies to all occupational exposures to benzene. Chemical Abstracts Service Registry No. 71-43-2, except as provided in paragraphs (a)(2) and (a)(3) of this section. Paragraph (a)(2): This section does not apply to: (i) The storage, transportation, distribution, dispensing, sale or use of gasoline, motor fuels, or other fuels containing benzene subsequent to its final discharge from bulk wholesale storage facilities, except that operations where gasoline or motor fuels are dispensed for more than 4 hours per day in an indoor location are covered by this section. (ii) Loading and unloading operations at bulk wholesale storage facilities which use vapor control systems for all loading and unloading operations, except for the provisions of 29 CFR 1910.1200 as incorporated into this section and the emergency provisions of paragraphs (g) and (i)(4) of this section. (iii) The storage, transportation, distribution or sale of benzene or liquid mixtures containing more than 0.1 percent benzene in intact containers or in transportation pipelines while sealed in such a manner as to contain benzene vapors or liquid, except for the provisions of 29 CFR 1910.1200 as incorporated into this section and the emergency provisions of paragraphs (g) and (i)(4) of this section. (iv) Containers and pipelines carrying mixtures with less than 0.1 percent benzene and natural gas processing plants processing gas with less than 0.1 percent benzene. (v) Work operations where the only exposure to benzene is from liquid mixtures containing 0.5 percent or less of benzene by volume, or the vapors released from such liquids until September 12, 1988; work operations where the only exposure to benzene is from liquid mixtures containing 0.3 percent or less of benzene by volume or the vapors released from such liquids from September 12, 1988, to September 12, 1989; and work operations where the only exposure to benzene is from liquid mixtures containing 0.1 percent or less of benzene by volume or the vapors released from such liquids after September 12, 1989; except that tire building machine operators using solvents with more than 0.1 percent benzene are covered by paragraph (i) of this section. (vi) Oil and gas drilling, production and servicing operations. (vii) Coke oven batteries. Paragraph (a)(3): The cleaning and repair of barges and tankers which have contained benzene are excluded from paragraph (f) methods of compliance, paragraph (e)(1) exposure monitoring-general, and paragraph (e)(6) accuracy of monitoring. Engineering and work practice controls shall be used to keep exposures below 10 ppm unless it is proven to be not feasible.</p> <p>Benzene (C<sub>6</sub>H<sub>6</sub>) (CAS Registry No. 71-43-2) means liquefied or gaseous benzene. It includes benzene contained in liquid mixtures and the benzene vapors released by these liquids. It does not include trace amounts of unreacted benzene contained in solid materials</p> <p>OSHA specifically regulated carcinogen</p>			
tert-Butanol	75-65-0, 75-65-0	TWA	100 ppm	2007-01-01	ACGIH	
	Further information	:	<p>Central Nervous System impairment</p> <p>A4: Not classifiable as a human carcinogen</p>			
		TWA	100 ppm 300 mg/m <sup>3</sup>	2013-10-08	NIOSH REL	
		ST	150 ppm 450 mg/m <sup>3</sup>	2013-10-08	NIOSH REL	
		TWA	100 ppm 300 mg/m <sup>3</sup>	1997-08-04	OSHA Z-1	
	Further information	:	(b): The value in mg/m <sup>3</sup> is approximate.			
		TWA	100 ppm 300 mg/m <sup>3</sup>	1989-01-19	OSHA P0	
		STEL	150 ppm 450 mg/m <sup>3</sup>	1989-01-19	OSHA P0	
Isohexane, Isohexane	107-83-5, 107-83-5	TWA	500 ppm	2013-03-01	ACGIH	
	Further	:	Central Nervous System impairment			



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	information		Upper Respiratory Tract irritation Eye irritation			
		STEL	1,000 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation			
		TWA	500 ppm 1,800 mg/m3	1989-01-19	OSHA P0	
		STEL	1,000 ppm 3,600 mg/m3	1989-01-19	OSHA P0	
		TWA	100 ppm 350 mg/m3	2013-10-08	NIOSH REL	
	Further information	:	Also see specific listing for n-Hexane.			
		C	510 ppm 1,800 mg/m3	2013-10-08	NIOSH REL	
	Further information	:	Also see specific listing for n-Hexane. 15 minute ceiling value			
Acetone	67-64-1, 67-64-1	TWA	500 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Hematologic effects Upper Respiratory Tract irritation Eye irritation ( ): Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section) A4: Not classifiable as a human carcinogen			
		STEL	750 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Hematologic effects Upper Respiratory Tract irritation Eye irritation ( ): Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section) A4: Not classifiable as a human carcinogen			
		TWA	250 ppm 590 mg/m3	2013-10-08	NIOSH REL	
		TWA	1,000 ppm 2,400 mg/m3	1997-08-04	OSHA Z-1	
	Further information	:	(b): The value in mg/m3 is approximate.			
		TWA	750 ppm 1,800 mg/m3	1989-01-19	OSHA P0	
		STEL	1,000 ppm 2,400 mg/m3	1989-01-19	OSHA P0	
	Further information	:	h: The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors.			

## Engineering measures

Explosion proof ventilation recommended.

Effective exhaust ventilation system

## Personal protective equipment

Eye/face protection : Tightly fitting safety goggles

Hand protection : Glove material: butyl-rubber

: Glove material: Neoprene

Skin and body protection : Protective suit

- Respiratory protection : In the case of vapor or aerosol formation use a respirator with an approved filter.  
Filter A
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.  
Wash contaminated clothing before re-use.

**Environmental exposure controls**

- General advice : Prevent product from entering drains.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

- Form : liquid
- Color : colorless
- Odor : Faint.
- Odor Threshold : No data available

**Safety data**

- pH : neutral
- Melting point : 9 - 11 °C
- Boiling point/boiling range : Decomposes below the boiling point.
- Flash point : Above the SADT value
- Evaporation rate : No data available
- Flammability (solid, gas) : Decomposition products may be flammable.
- Lower explosion limit : No data available
- Upper explosion limit : No data available
- Vapor pressure : 0.4 hPa at 50 °C
- Relative vapor density : No data available
- Relative density : 1.04 at 20 °C
- Bulk density : Not applicable
- Water solubility : at 20 °C  
immiscible
- Solubility in other solvents : Soluble in most organic solvents.

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Partition coefficient: n-octanol/water	: log Pow: 3 at 25 °C
Autoignition temperature	: Test method not applicable
Decomposition temperature	: SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT)	: 60 °C
Viscosity, dynamic	: 6 mPa.s at 20 °C
Viscosity, kinematic	: 5.77 mm <sup>2</sup> /s at 20 °C
Explosive properties	: Not explosive
Oxidizing properties	: Not classified as oxidizing.
Active Oxygen Content	: 8 %
Organic peroxides	: 98 %

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

## 10. STABILITY AND REACTIVITY

Conditions to avoid	: Confinement must be avoided. Heat, flames and sparks.  For safety, store below: 25 °C (77 °F)
Materials to avoid	: Contact with incompatible materials will result in hazardous decomposition. For queries regarding the suitability of other materials please contact the supplier. Do not mix with peroxide accelerators, unless under controlled processing. Use only stainless steel 316, PP, polyethylene or glass-lined equipment. Acids and bases Iron Copper Reducing agents Heavy metals Rust
Hazardous decomposition products	: Benzene tert-Butanol

Isohexane  
Acetone  
Carbon oxides

Thermal decomposition	: SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Reactivity	: Stable under normal conditions.
Chemical stability	: Stable under recommended storage conditions.
Hazardous reactions	: No dangerous reaction known under conditions of normal use.
Self-Accelerating decomposition temperature (SADT)	: 60 °C (140 °F)

## 11. TOXICOLOGICAL INFORMATION

### PRODUCT INFORMATION:

#### Toxicology Assessment

Further information : No further data available.

#### Carcinogenicity:

IARC	: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

### TOXICOLOGY DATA FOR THE INGREDIENTS:

#### Test result

#### Component: tert-Butyl peroxybenzoate

Acute inhalation toxicity : LC50 : > 1.01 mg/l  
Exposure time: 4 h  
Test atmosphere: aerosol  
Assessment: The component/mixture is moderately toxic after short term inhalation.

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Skin irritation	: Species: Rabbit Result: Skin irritation
Eye irritation	: Species: Rabbit Result: No eye irritation
Repeated dose toxicity	: Species: Rat Application Route: Oral Exposure time: 90 d () NOEL: 30 mg/kg
Germ cell mutagenicity Genotoxicity in vitro	: In vitro gene mutation study in mammalian cells Result: positive  Ames test Result: positive Method: OECD Test Guideline 471  Chromosome aberration test in vitro Result: positive
Genotoxicity in vivo	: In vivo micronucleus test Method: OECD Test Guideline 474 Result: negative
Reproductive toxicity/Fertility	: Species: Rat, male and female Application Route: Oral Dose: 0, 100, 300, 750, 1000 milligram per kilogram General Toxicity Parent: NOAEL (No observed adverse effect level): 300 mg/kg body weight/day General Toxicity F1: No observed adverse effect level F1: 300 mg/kg body weight/day Method: OECD Test Guideline 421 GLP: yes
Target Organ Systemic Toxicant - Repeated exposure	: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration toxicity	: No aspiration toxicity classification

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## 12. ECOLOGICAL INFORMATION

### PRODUCT INFORMATION:

#### Ecotoxicology Assessment

Additional ecological information	: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
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## Further information on ecology

### Hazardous to the ozone layer

Regulation	: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

## INGREDIENTS:

### Ecotoxicology Assessment

#### Component: tert-Butyl peroxybenzoate

Acute aquatic toxicity	: Very toxic to aquatic life.
Chronic aquatic toxicity	: Harmful to aquatic life with long lasting effects.

## Test result

#### Component: tert-Butyl peroxybenzoate

### Ecotoxicity effects

Toxicity to fish	: LC50: 1.6 mg/l Exposure time: 96 h Species: Danio rerio (zebra fish)
Toxicity to daphnia and other aquatic invertebrates	: EC50: 11 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae	: EC10: 0.44 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Test Type: Growth inhibition Method: OECD Test Guideline 201  ErC50: 0.8 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Test Type: Growth inhibition Method: OECD Test Guideline 201
M-Factor	: 1
Toxicity to bacteria	: EC50: 43 mg/l Exposure time: 0.5 h Species: activated sludge Test Type: Respiration inhibition Method: Domestic OECD Guideline 209

### Elimination information (persistence and degradability)

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Biodegradability : Result: Readily biodegradable.

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## 13. DISPOSAL CONSIDERATIONS

Product : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Hazardous waste  
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not burn, or use a cutting torch on, the empty drum.  
Due to the high risk of contamination recycling/recovery is not recommended.  
Follow all warnings even after the container is emptied.

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## 14. TRANSPORT INFORMATION

### International Regulation

#### IATA-DGR

UN/ID No. : UN 3103  
Proper shipping name : Organic peroxide type C, liquid  
(tert-Butyl peroxybenzoate)  
Class : 5.2  
Subsidiary risk : HEAT  
Packing group : Not Assigned  
Labels : 5.2 (HEAT)  
Packing instruction (cargo aircraft) : 570  
Packing instruction (passenger aircraft) : 570  
Environmentally hazardous : yes

#### IMDG-Code

UN number : UN 3103  
Proper shipping name : ORGANIC PEROXIDE TYPE C, LIQUID  
(tert-Butyl peroxybenzoate)  
Class : 5.2  
Packing group : Not Assigned  
Labels : 5.2  
EmS Code : F-J, S-R  
Marine pollutant : yes  
(tert-Butyl peroxybenzoate)

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### Domestic regulation

#### 49 CFR

UN/ID/NA number : UN 3103  
Proper shipping name : Organic peroxide type C, liquid  
(tert-Butyl peroxybenzoate, 98%)

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Class	: 5.2
Packing group	: II
Labels	: 5.2
ERG Code	: 146
Marine pollutant	: yes (tert-Butyl peroxybenzoate)
Reportable Quantity	: This product does not contain an environmentally hazardous substance per 49 CFR 172.101, Appendix A.

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## 15. REGULATORY INFORMATION

### Notification status

CH INV	: YES. On the inventory, or in compliance with the inventory
TSCA	: YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.
DSL	: YES. All components of this product are on the Canadian DSL.
AICS	: YES. On the inventory, or in compliance with the inventory
NZIoC	: YES. On the inventory, or in compliance with the inventory
ENCS	: YES. On the inventory, or in compliance with the inventory
ISHL	: YES. On the inventory, or in compliance with the inventory
KECI	: YES. On the inventory, or in compliance with the inventory
PICCS	: YES. On the inventory, or in compliance with the inventory
IECSC	: YES. On the inventory, or in compliance with the inventory

For explanation of abbreviations, see section 16.

<b>TSCA list</b>	: Not relevant
<b>OSHA Hazards</b>	: Organic Peroxide, Toxic by inhalation., Skin sensitizer, Moderate skin irritant

### EPCRA - Emergency Planning and Community Right-to-Know

#### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

<b>SARA 311/312 Hazards</b>	: Reactivity Hazard Acute Health Hazard
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<b>SARA 302</b>	: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
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<b>SARA 313</b>	: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
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### Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals subject to disclosure and listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

### Clean Water Act



This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.  
 This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.  
 This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

## US State Regulations

### Massachusetts Right To Know

tert-Butyl peroxybenzoate	614-45-9	90 - 100 %
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### Pennsylvania Right To Know

tert-Butyl peroxybenzoate	614-45-9	90 - 100 %
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### New Jersey Right To Know

tert-Butyl peroxybenzoate	614-45-9	90 - 100 %
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### California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## 16. OTHER INFORMATION

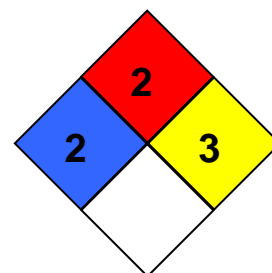
### Full text of H-Statements

H242	: Heating may cause a fire.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H332	: Harmful if inhaled.
H400	: Very toxic to aquatic life.
H412	: Harmful to aquatic life with long lasting effects.

### Further information

<b>HMIS Classification</b>	: Health Hazard: 2
	Flammability: 1
	Physical hazards: 3

<b>NFPA Classification</b>	: Health Hazard: 2
	Fire Hazard: 2
	Reactivity Hazard: 3



### Notification status explanation

REACH	1907/2006 (EU)
CH INV	Switzerland. New notified substances and declared preparations
TSCA	United States TSCA Inventory
DSL	Canadian Domestic Substances List (DSL)
AICS	Australia Inventory of Chemical Substances (AICS)
NZIoC	New Zealand. Inventory of Chemical Substances
ENCS	Japan. ENCS - Existing and New Chemical Substances Inventory
ISHL	Japan. ISHL - Inventory of Chemical Substances

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KECI	Korea. Korean Existing Chemicals Inventory (KECI)
PICCS	Philippines Inventory of Chemicals and Chemical Substances (PICCS)
IECSC	China. Inventory of Existing Chemical Substances in China (IECSC)

## Further information

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The information in this material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The user must determine the appropriate measures that need to be implemented for the use and handling of this product in the context of the user's operations and use of this product. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old, call to make certain that this sheet is current. No warranty is made as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. User must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. Nothing contained herein shall be construed as granting or extending any license under any patent.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.